

REMARKS

The examiner is thanked for the performance of a thorough search. By this amendment, Claims 1, 2, 8, 9, 14, 15, 20, and 21 have been amended. No claims have been cancelled or added. Hence, Claims 1-25 are pending in the application. The amendments to the claims as indicated herein do not add any new matter to this application.

Each issue raised in the Office Action mailed May 27, 2009 is addressed hereinafter.

I. ISSUES NOT RELATING TO CITED ART

A. CLAIM AMENDMENTS

Claim 1 now recites a “method comprising the computer-implemented steps, performed in a router and ordered as below”, which is amply supported in the specification, at least by paragraphs [0033] and [0036]. Claim 1 further recites “entering a recovery mode in which a forwarding plane is preserved”, which is amply supported in the specification, at least by paragraphs [0009]-[0016] and [0034]. Claim 1 further recites “sending a Hello message to the first neighbor RSVP node, in response to completing the recovery mode, wherein the Hello message comprises a Recovery Time value of zero”, which is amply supported in the specification, at least by paragraph [0045]. Claims 8, 14, and 20 have been similarly amended, and are supported in the specification for at least the same reasons as Claim 1.

Claim 2 now recites “determining that the received Hello message has a non-zero Recovery Time value; [and] in response to determining that the received Hello message has a non-zero Recovery Time value, storing information specifying that the second neighbor RSVP node is in a recovery mode”, which is amply supported in the specification, at least by paragraph [0046]. Claims 9, 15, and 21 have been similarly amended, and are supported in the specification for at least the same reasons as Claim 2.

B. ALLOWABLE SUBJECT MATTER, CLAIMS 5, 7, 12, 18, AND 24

Claim 7 is allowed and Claims 5, 12, 18, and 24 are objected to as being dependent upon a rejected base claim.

II. ISSUES RELATING TO CITED ART

A. CLAIMS 1-3, 8-10, 14-16, AND 20-22

Claims 1-3, 8-10, 14-16, and 20-22 are rejected under 35 U.S.C. § 102(e) as being unpatentable over U.S. Patent No. 7,359,377 to Kompella, et al. (“Kompella”). The rejection is respectfully traversed.

Claim 1

Claim 1 recites:

A method of restarting resource reservation protocol (RSVP) processes in multiple network devices, the method comprising the computer-implemented steps, **performed in a router and ordered as below**, of:
entering a recovery mode **in which a forwarding plane is preserved**;
sending a Hello message to a first neighbor RSVP node, after entering the recovery mode, wherein the Hello message comprises a non-zero Recovery Time value;
completing the recovery mode, after sending the Hello message;
sending a Hello message to the first neighbor RSVP node, in response to completing the recovery mode, wherein the Hello message comprises a Recovery Time value of zero.

At least the above bolded features of Claim 1 are not taught or suggested by Kompella.

Kompella fails to teach or suggest the features of Claim 1 performed in a router and in the order as listed in Claim 1. Specifically, Kompella fails to teach or suggest a router (a) “entering a recovery mode in which a forwarding plane is preserved”, then (b) “sending a Hello message to a first neighbor RSVP node, after entering the recovery mode, wherein the Hello message comprises a non-zero Recovery Time value”, then (c) “completing the recovery mode”, then (d) “sending a Hello message to the first neighbor RSVP node, in response to completing

the recovery mode, wherein the Hello message comprises a Recovery Time value of zero.”

Fundamentally, the claimed approach uses Recovery Time values to signal completely different states or effects than described in Kompella.

For example, FIG. 6 of Kompella shows a “flow diagram of an exemplary method for providing a restarting node with a graceful restart.” (See Kompella Col. 7, Lines 1-2.) This flow diagram shows that a restarting node **either** “advertise[s] that forwarding state table was preserved” at block 632, **or** “advertise[s] that forwarding state table was not preserved” at block 622. If the forwarding state table was not preserved, “this fact may be advertised to peer node(s) as indicated by act 622, and the node will rebuild (repopulate) its forwarding state in a normal (i.e., non-graceful) way, as indicated by block 625” **and the method returns without ever reaching block 632.** (See Kompella, Col 11, lines 3-7.) Further, if the forwarding state table was preserved, the restarting node “may advertise that it was able to preserve its forwarding state, as indicated by block 632”, and **the method never reaches block 622** because the trigger event, “RESTART OF CONTROL COMPONENT COMPLETE”, only occurs once for a particular restart of a particular node. Thus, Kompella fails to show the sequence of steps recited by Claim 1.

A node enters recovery mode only if the forwarding plane of a node is preserved across a restart event. (See Kompella Abstract, and Col 5, line 66 – Col 6, line 10.) If a node fails to preserve its forwarding state, “the node will rebuild (repopulate) its forwarding state in a normal (i.e., non-graceful) way, as indicated by block 625”. (See Kompella, Col 11, lines 3-7.) A non-graceful restart of a node does not involve entering “recovery mode”, as recited in Claim 1, but rebuilds the forwarding plane using conventional techniques.

Thus, Figure 6 illustrates both graceful restart of a node and a normal, non-graceful restart of a node. Specifically, Col 10, line 66 – Col 11, line 3 of Kompella states that: “[i]f the

restart of the node's control component (or part of the control component related to label-switched paths) is completed (See 840 of FIG. 8.), the node will determine whether it was able to preserve its forwarding state as indicated by conditional branch point 620.” If the forwarding state was preserved, the process of graceful restart initiates at block 629. (See Kompella, Col 11, lines 7-16.) However, if the forwarding state was not preserved, the node advertises the fact at act 622, performs non-graceful rebuilding of the forwarding state at block 625, and returns at node 690, **without ever entering a “recovery mode” as recited by Claim 1**. In fact, non-graceful rebuilding of the forwarding state is performed in the same manner as the forwarding state was initially built, by **rebuilding** the data, and not **recovering** the data.

Furthermore, Kompella fails to teach or suggest “sending a Hello message to the first neighbor RSVP node, in response to completing the recovery mode, wherein the Hello message comprises a Recovery Time value of zero” recited by Claim 1. The Office Action cites Kompella Figs 6 and 8; Col 11, Lines 15-20; Col 10, Line 66 – Col 11, Line 3; Col 23, Lines 6-21; and Col 19, Lines 10-15 for allegedly teaching “sending a Hello message to the first neighbor RSVP node, after completing the recovery mode, wherein the Hello message comprises a Recovery Time value of zero”. However, these portions of Kompella fail to teach or suggest the above-cited feature of Claim 1, as amended.

In the Response to Arguments, page 3 of the Office Action, the Office Action alleges that a completed “restart of component . . . with forwarding state not preserved”, as shown in Kompella Col 19, lines 10-15, is sufficient to teach “completing recovery mode” recited by Claim 1. The cited portion of Kompella describes block 622 of FIG. 6, which is only performed in order to “advertise **that forwarding state table was not preserved**” in the restarting node. In contrast, the forwarding state **is preserved** in the recovery mode recited in Claim 1. Therefore, the cited portion of Kompella fails to teach or suggest “sending a Hello message to the first

neighbor RSVP node, in response to completing the recovery mode, wherein the Hello message comprises a Recovery Time value of zero” recited by Claim 1.

The other cited portions of Kompella do not remedy the above-mentioned deficiencies of Kompella. For example, Kompella Col 11, Lines 15-20 indicates that “either act 622, act 632, or both may be provided.” However, this statement does not teach or suggest that both acts occur in the same restarting node, as explained above. Furthermore, this portion of Kompella fails to teach or suggest that a Recovery Time value of zero is sent to a neighbor RSVP node in response to completing recovery mode, as recited by Claim 1. (See Kompella, Fig. 6.)

Thus, because Kompella fails to teach or suggest at least the above-cited features of Claim 1, Claim 1 is patentable over Kompella. Reconsideration is respectfully requested.

Claim 2

Claim 2 recites:

A method as recited in Claim 1, further comprising the steps of:
receiving, from a second neighbor RSVP node, a Hello message having a non-zero Recovery Time value;
determining that the received Hello message has a non-zero Recovery Time value;
in response to determining that the received Hello message has a non-zero Recovery Time value, storing information specifying that the second neighbor RSVP node is in a recovery mode.

Kompella fails to teach or suggest at least the above-bolded feature of Claim 2.

The Office Action cites Kompella Fig. 8, and Col 12, Lines 5-8 as allegedly teaching “storing information specifying that the second neighbor RSVP node is in a recovery mode”. However Kompella fails to teach or suggest “in response to determining that the received Hello message has a non-zero Recovery Time value, storing information specifying that the second neighbor RSVP node is in a recovery mode” recited by Claim 2.

The cited portions of Kompella show starting a “first timer” upon discovering that a peer node, “that has advertised its restart capability, is ‘down’”. However, Kompella fails to teach or

suggest storing information specifying that a node is in recovery mode **“in response to determining that [a] received Hello message has a non-zero Recovery Time value,”** as recited by Claim 2. In fact, Kompella indicates only that “[a] node can determine that the control plane of its peer went down using known (e.g., published) or proprietary techniques.” (See Kompella, Col 25, lines 47-49.) Such a broad generic disclosure is insufficient to teach or suggest the specific features of Claim 2. Reconsideration is respectfully requested.

Balance of the Claims

Independent Claims 8, 14, and 20 recite features substantially similar to those of Claim 1, and are thus patentable over the cited art for at least the same reasons as Claim 1. Furthermore, Claims 2-3, 9-10, 15-16, and 21-22 each depend from one of these independent claims. Thus, these dependent claims are patentable over Kompella for at least the same reasons as those discussed in connection with the independent claims upon which they depend. As is discussed above, these independent claims recite features that Kompella does not disclose. Therefore, Claims 2-3, 9-10, 15-16, and 21-22, which inherit these features, are patentable over Kompella. Furthermore, these dependent claims recite features that render them patentable over Kompella, as illustrated with respect to Claim 2. Reconsideration is respectfully requested.

B. CLAIMS 4, 6, 11, 13, 17, 19, 23, AND 25

Claims 4, 6, 11, 13, 17, 19, 23, and 25 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Kompella in view of U.S. Patent No. 7,317,731 to Seddigh et al. (“Seddigh”). The rejection is respectfully traversed. Claims 4, 6, 11, 13, 17, 19, 23, and 25 depend either directly or indirectly from one of independent Claims 1, 8, 14, and 20 discussed above, and are patentable over the cited references for at least the same reasons as those discussed in connection with these independent claims. As is discussed above, these independent claims recite features

that Kompella does not disclose. The Office Action does not even allege that Seddigh discloses these features. Therefore, Claims 4, 6, 11, 13, 17, 19, 23, and 25, which inherit these features, are patentable over Kompella and Seddigh, even when considered in combination, under 35 U.S.C. § 103(a).

III. CONCLUSIONS & MISCELLANEOUS

For the reasons set forth above, all of the pending claims are now in condition for allowance. The Examiner is respectfully requested to contact the undersigned by telephone relating to any issue that would advance examination of the present application.

A petition for extension of time, to the extent necessary to make this reply timely filed, is hereby made. If applicable, please charge our deposit account for the petition for extension of time fee. If any applicable fee is missing or insufficient, throughout the pendency of this application, the Commissioner is hereby authorized to charge any applicable fees and to credit any overpayments to our Deposit Account No. 50-1302.

Respectfully submitted,

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